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ABSTRACT

The two principal goals of the Ohio College Library Center (OCLC), as approved during the first annual meeting held October 25, 1967, are: (1) increase the resources for education and research to faculty and students of its member insititutions and (2) the deceleration of per-student costs in its member colleges and universities. Plans to achieve these goals are given. The second annual report includes the design of five major subsystems: (1) a shared cataloging system, (2) a remote catalog access and circulation control system, (3) a bibliographic information retrieval project, (4) a serials control system and (5) a major technical processing system that will computerize most of library processing. The third annual report discusses the implementation of these five subsystems. The foremost accomplishment reported in the fourth annual report was the implementation of the shared cataloging system. (Author/NH)

ED 059730

[OHIO COLLEGE LIBRARY CENTER

ANNUAL REPORTS

1967/1968 - 1970/1971]

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LI 003 469

Ohio College Library Center

Annual Report

1967/1968

To: Board of Trustees

I have the honor to submit my first Annual Report.

Organization

Incorporation of the Ohio College Library Center as a not for profit corporation occurred on 6 July, 1967. The purpose of the Corporation is "to establish, maintain and operate a computerized, regional library center to serve the academic libraries of Ohio (both state and private) and designed so as to become a part of any national electronic network for bibliographical communication." As Director of the Center, I took up duties in Columbus in early September and largely spent the next two months consummating legal organization.

The First Annual Meeting of the Members was held at Denison University on 25 October, 1967. Purpose of the meeting was to perfect the Center as a corporate organization according to the laws of the State of Ohio. The meeting was, in effect, recognition of the Articles of Incorporation and adoption of the Code of Regulations of the Center. In other words, the act of the members meeting together was the final act that established the Center as a corporate organization. As required by the Articles of Incorporation, the meeting elected nine members to the Board of Trustees as follows:

For one year	Institution
A. Blair Knapp	Denison University
Bob Mowery	Wittenberg University
Phillip R. Shriver	Miami University
For two years	
Lewis C. Branscomb	Ohio State University
Arthur T. Hamlin	University of Cincinnati
John Kamerick	Kent State University
For three years	
Robert F. Cayton	Marietta College
Joseph M. Denham	Hiram College
A. Robert Rogers	Bowling Green State University

The Board of Trustees held its meeting immediately following that of the First Annual Meeting. The Trustees elected A. Blair Knapp as Chairman, Lewis C. Branscomb, Vice Chairman, Robert F. Cayton, Secretary, and Bob Mowery, Treasurer. The Board approved the program for development which the Director

had presented in extenso to the Annual Meeting. That program had five major sections: 1) shared-cataloging, 2) bibliographic information retrieval, 3) circulation control, 4) serials control, and 5) a technical processing system. The Board also approved the research program that included investigation into duplicate processing among Ohio academic libraries, identification of a state-wide core collection of heavily used materials in academic libraries, and measuring users extra-institutional use of library materials. The Board also approved a budget for 1967/68 for the expenditure of $66,428 with an anticipated income of $66,462.

The Director reported that a separate corporate bank account had been established for the Center, and that Mrs. Judith Washburn, of the Office of University Budgets, had been hired as a part-time accountant. In general, OCLC will mimic OSU administrative and personnel practices, including position classification and salaries. However, in the spring, OCLC succeeded in becoming an active member of the Teachers Insurance and Annuity Association, and it will use TIAA in its retirement program.

The Center has been housed throughout the year in space generously made available by the Ohio State University Libraries. In the spring the Ohio State University generously offered to make available some 2400 square feet of space in OSU's Computer Center after personnel of the Computer Center will have moved to new quarters in the late summer of 1968.

The Center suffered a grievous loss when Blair Knapp died on 28 May, 1968. He had long been interested and active in a state-wide cooperative academic library activity. Indeed, the Ohio College Association had appointed him Chairman of its Implementation Committee which brought the Ohio College Library Center into being. The Trustees elected President Robert W. Morse, of Case Western Reserve University, to the vacancy on the Board.

Planning

In June, the Trustees approved a general statement of two principal goals of the Ohio College Library Center. These goals are, 1) increase of resources for education and research to faculty and students of its member institutions, and 2) the deceleration of per-student costs in its member colleges and universities. Techniques for achieving these goals include

library and the new library-like information servicing techniques, such as dial-up installations, audio-visual centers, television stations, closed-circuit T.V., computation centers, and computer assisted instruction. Although "academic libraries" of the immediate future must be looked upon as including all of these activities, only the traditional library is presently common to all institutions which are OCLC members. Therefore, major emphasis in planning and development will continue to be for activities associated with classical library operations. However, OCLC will stand ready to participate in newer information servicing activities, and it may well be that furnishing powerful computation service will be among its earliest activities.

In planning OCLC projects, the newer comprehensive systems approach has been employed. In general, Ohio academic libraries have been considered as one comprehensive system whose objective is participation in educational and research programs of their institutions. In addition, planning has been based on the system being an on-going process that is information-based.

The information in the phrase "information-based" is best defined as data used in a decision making process. Thus, information is data concerning bibliographic items that are in process in the system; this information is used for decision making in driving the system.

Classical library operation has consisted of groups of procedures. In contrast to a system, a procedure is a specified, ordered series of acts that produce, modify, or move an object. A procedure characteristically has no objective, whereas a system and each segment and sub-segment of a system has the goal of attaining some wanted objective.

Initial development schedule called for the shared-cataloging project to be activated first, to be followed closely by the bibliographic information retrieval project. However, during the winter, the Ohio State University Libraries proposed that it develop for OCLC a remote catalog access and circulation system. Such a system would involve conversion of most of the data elements in each bibliographic record in OSU's catalog. Since the remote catalog access and circulation system will be based on the same machine-readable bibliographic record as the shared-cataloging system, it will greatly enhance the value of the latter. Moreover, it will bring the benefits of the OCLC system to student and faculty much sooner than had originally been hoped.

In mid-April, the Director gave a paper at the Sixth Annual Clinic on Library Applications of Data Processing at the University of Illinois that was entitled "Initial System Design for the Ohio College Library Center: A Case History." This paper remains the major statement for OCLC system development. Copies were circulated to members of the Center.

Finances

Financial policy of the Ohio College Library Center calls for each institution to pay for operational costs prorated on the amount of use each member makes of the system. However, it is intended that funding for development will be obtained from granting agencies interested in assisting library innovation. In other words, it is hoped that outside funds will support development and activation of major system segments, but that member institutions will support operation of the system.

A formula for calculating assessments of members was worked out, and a special meeting of the members on 17 April, 1968 approved the formula. In general, this formula is based on the number of titles each member library processes in the expectation that a similar pro rata technique will be employed after the shared-cataloging project has become operational.

Of a possible 66 potential members, 54 paid assessments for 1967/68. Appendix A is a Statement of Charges in Fund Balance as of 30 June, 1968.

In an effort to obtain funds to finance development, a draft of a research proposal entitled "Development of a Computerized Regional Shared-Cataloging System" was sent to the Office of Education for preliminary review. OE maintained interest in receiving a formal submission of the proposal until April when the advisory committee of the Library and Information Science Research Program of the Office of Education recommended that the program not finance large library computerization projects in addition to its current commitments. OE also reacted negatively to there being "no indication of substantive local support shown by OCLC members" and to lack of full-time staff members.

Subsequent to this untoward event, the Council on Library Resources voiced a possible interest in the OCLC development program and expressed a willingness to look at a proposal. At the end of the year a revised proposal to go to the Council was nearing completion.

The Center for Documentation and Communication Research at Case Western Reserve University was asked if it would undertake investigations in several areas, including a study of extra-institutional library use by members of Ohio colleges and universities. CDCR prepared a research proposal to support this investigation and presented it to the Title III Advisory Council of the Ohio State Library and was successful in obtaining necessary funds. The Case Western Reserve Center will complete the study in the course of the coming year, and its results will provide valuable information that can be used as a basis for design of machine search patterns to be invoked when a local library does not contain requested titles. Later, the results can be used to determine which type of non-academic libraries should be among the first to be added to the OCLC system or to a similar regional academic library system.

Staffing

The budget provided a position for a Chief of Development. However, extraordinarily few individuals fully qualify for such a position. Four of these individuals were invited to consider the assignment, but for one reason or another each declined.

A possible interest in the position was discussed with several high level computer systems people who have demonstrated ability and accomplishment. Although some were interested in the novelty and complexity of the OCLC system, none could be persuaded to make his career in library computerization.

Search for a Chief of Development was vigorously prosecuted throughout the year, but without success.

Activities

The Director visited 40 of the potential 66 OCLC institutions, some of them on several occasions. In addition, he spoke to groups of librarians, often including members of neighboring library staffs, at Case Western Reserve University, Cedarville College, Central State University, Findlay College, Kent State University, the Miami Valley Consortium, Oberlin College, Ohio State University, University of Cincinnati, and the University of Toledo. He addressed faculties at Cedarville College, Denison University, Marietta College, Ohio University, Otterbein College, and the University of Cincinnati. He also spoke at about a dozen

meetings in Ohio including two meetings of the Ohio College Association. Most of the other gatherings were of local or regional library organizations.

As a member of the United States of America Standards Institute's Committee on Machine Input Records, the Director has continued to participate in standardization of machine-readable bibliographic records. OCLC will comply fully with such standards.

The Director has been Editor of the Journal of Library Automation, the first issue of which appeared in the spring of 1968.

Publications during the year included:

"Implications for the Future of Reference and Information Services." The Present Status and Future Prospects of Reference/Information. Chicago, American Library Association, 1967. pp. 172-183.

With Peter Stangl. "Analysis of Recorded Biomedical Book and Journal Use in the Yale Medical Library Part I: Date and Subject Relations." Bulletin of the Medical Library Association 55. No. 3. 290-300, 1967.

With Peter Stangl. "Analysis of Recorded Biomedical Book and Journal Use in the Yale Medical Library Part II. Subject and User Relations." Bulletin of the Medical Library Association 55: 3 pp. 301-314, 1967.

"Costs of Library Catalog Cards Produced by Computer." Journal of Library Automation. (June, 1968). 121-127.

Appendix A

THE OHIO COLLEGE LIBRARY CENTER

Statement of Changes in Fund Balance as of 30 June, 1968

Assets	
Cash	$57,608.14
Petty Cash	50.00
Equipment	2,973.77
Prepaid Expenses	1,432.06
Total Assets	62,063.97
Liabilities	
Accounts Payable	4,352.44
Deferred Income	27,686.00
Equity	30,025.53
Total Liabilities & Equity	62,063.97

Income Statement Fiscal Year 1967-68

Income			
Membership Dues	67,130.00		
Miscellaneous	15.20		
Total Income		$67,145.20	
Expenditures			
Salaries & Benefits	27,171.70		
Other Benefits - Soc. Sec.	526.81		
Retirement - TIAA	2,167.11		
Insurance	72.00		
Supplies	733.85		
Travel	1,521.07		
Improvements	2,203.43		
Memberships & Registration	516.50		
Printing & Duplicating	809.48		
Postage & Telephone	529.72		
Other Services	659.12		
Books & Periodicals	52.20		
Organizational Costs	156.68		
Total Expense		$37,119.67	
Net Margin			$30,025.53

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Ohio College Library Center

Annual Report

1968/1969

BOARD OF TRUSTEES

Term expires 1969
Lewis C. Branscomb, Chairman
Eileen Thornton
Charles O. McDonald

Term expires 1970
Robert F. Cayton, Secretary
Joseph M. Denham

Term expires 1971
Phillip R. Shriver, Vice Chairman
Bob L. Mowery, Treasurer
Robert W. Morse

MEMBERS

Antioch College
Ashland College
Athenaeum of Ohio
Bluffton College
Borromeo Seminary of Ohio
Bowling Green State University
Capital University
Case Western Reserve University
Cedarville College
Central State University
Cleveland State University
College of Mt. St. Joseph on the Ohio
College of Wooster
Cuyahoga Community College
Defiance College
Denison University
Findlay College
Hebrew Union College
Heidelberg College
Hiram College
John Carroll University
Kent State University
Kenyon College
Lake Erie College
Malone College
Marietta College
Mary Manse College
Miami University
Muskingum College
Oberlin College
Ohio Dominican College
Ohio Northern University
Ohio State University
Ohio University
Ohio Wesleyan University
Otterbein College
Pontifical College of Josephinum
Rio Grande College
Sinclair College
St. John College of Cleveland
University of Akron
University of Cincinnati
University of Dayton
University of Toledo
Urbana College
Ursuline College for Women
Walsh College
Western College for Women
Wilberforce University
Wilmington College
Wittenberg University
Wright State University
Xavier University
Youngstown State University

STAFF

Frederick G. Kilgour, Director
Curtis E. Higgins, Senior Programmer & Systems Analyst
Philip L. Long, Senior Programmer & Systems Analyst
Heberle J. Moore, Editor
Adela Z. Merhemic, Secretary
Mary A. Allen, Clerk-Keypuncher

To: Board of Trustees

I have the honor to submit my second Annual Report.

Organization

This year was the first full year during which the Ohio College Library Center operated as a corporate entity as provided for in its Articles of Incorporation and Code of Regulations dated 6 July, 1967. These instruments proved to be entirely adequate, and there is every reason to believe that they will continue to be adequate for some years to come. There have, however, been repeated inquiries as to when it would be possible for the Center to accept non-academic libraries as members. The Board of Trustees discussed enlargement of membership at its Annual Meeting on 8 November, 1968 and reaffirmed the principle of admitting other types of libraries to membership when it would prove technically and economically feasible to do so. The Board recognized that a change in the Articles of Incorporation will be necessary to make possible admission of other types of libraries, but on advice from the Center's legal counsel, a change will not be sought until such time as expansion of membership is to be activated.

The Board elected two Trustees to fill unexpired terms. Elected were Eileen Thornton, Librarian, Oberlin College, to fill the remaining year of John Kamerick's term, and Charles O. McDonald, Professor of English, University of Cincinnati, to replace Arthur Hamlin who submitted his resignation to be effective on 15 December, 1968. The Annual Meeting of the Members re-elected Robert W. Morse, Case Western Reserve University, Bob Lee Mowery, Wittenberg University, and Phillip R. Shriver, Miami University, to three-year terms on the Board of Trustees. Subsequently, the Board elected the following officers for 1968/69: Chairman, Lewis C. Branscomb; Vice Chairman, Phillip R. Shriver; Secretary, Robert F. Cayton; and Treasurer, Bob Lee Mowery.

Planning & Accomplishment

The Board of Trustees approved a "Statement of Academic Objective, Economic Goal, and Mission to Achieve These Ends" that follows, except that a paragraph describing the Center has been omitted that would be redundant in this Report.

> The principal academic objective of the Ohio College Library Center is to increase availability of library resources for use in educational and research programs of Ohio colleges and universities. The principal economic goal of the Center is to lower the rate of rise of per-student library costs, while increasing availability of library resources.
>
> Activities of the Center are research, development, implementation, and operation of computerized systems designed to achieve the Center's objectives and goals. As yet, no computerized library network of the size of OCLC is in operation, although smaller projects are partially operational. Therefore, extensive research and development is required before implementation can be undertaken. However, five major subsystems have been designed.

First to be implemented will be a shared cataloging system based on a central computerized catalog. This system will speed cataloging and reduce cataloging costs in member libraries; 1) by taking advantage of cataloging performed elsewhere and thereby eliminating duplicate effort, and 2) by employment of labor saving machines. In addition, this project will produce at no extra cost a central union catalog whereby each member institution can rapidly determine by author and title location of materials in Ohio. Moreover, the communication system can be employed for rapid requests of materials from other institutions.

The second project will be a remote catalog access and circulation control system which will enable student and faculty members outside the library to determine local institution holdings, as well as those in the state. Access will be by author and title. The system will also make it possible for a user to determine the exact location of the item he needs and whether or not it is immediately available for him before he leaves the building in which he is working or studying. The mechanized circulation control will also cut library costs.

The third system will be a bibliographic information retrieval project whereby instructors and students at remote terminals can search holdings from the subject point of view. Again, large amounts of user time will be saved thereby.

The fourth project is a serials control system that will be designed to facilitate library control of serials holdings.

The fifth project will be a major technical processing system that will computerize most of library processing. One of its major products will be addition to the central catalog of materials in process so that a user can determine existence and location of a specific book in a library system before complete entry in the catalog has been accomplished.

In effect, these systems furnish the advantages of computers to faculty members, students, and the library. They take advantage of existence of materials in other institutions and of effort accomplished in other institutions without increasing costs to such institutions. Of equal importance, the system is based on labor-saving machines which will make it possible to bring exponentially rising library per-student costs into a linear relationship with costs in the general economy before it will be possible to bring rising per-student costs in other areas of college and universities into a linear relationship.

In the early stages of investigation of various computer systems to handle the five projects just described, it became apparent that there were many more variables on which such a choice should depend than it was humanly possible to consider. Once this circumstance became clear, there were two possible avenues to follow: 1) acquisition of a more than adequate computer (it turned out on

simulation that some "more than adequate computers" could not do the job) and therefore incurrence of unnecessary expense; or, 2) employment of the powerful tool of simulation to test various computers to determine their abilities to perform the five major Center tasks. The latter route was selected, and a matching grant was requested from the Library Services & Construction Act, Title III Special Project Grant funds administered by the Ohio State Library. Subsequently, the Board of the State Library approved a matching grant in the amount of $18,588 that enabled the Center to move ahead with its simulation activity. The veteran simulation firm, Comress, was selected to do the simulation over a three-month period, which began on 9 June, 1969. By 30 June, considerable accomplishment had been attained, and the effectiveness of the simulation process was proving to be greater than hoped for. The model developed during simulation will belong to the Center and will be made available to other libraries for use. Findings of the study will be made generally available.

Simulation required a full and detailed system design together with a complete description of each file, of the record size in each file, the size of each field within records, and identification of each field as to whether it would be submitted to character manipulation or arithmetic calculation. Also required was configuration of the communication system including number of lines, type of lines, and types of terminals. In addition it was necessary to have accurate estimates of the volumes of traffic, as well as volumes of records that would be in each file.

The staff was able to furnish the majority of needed information from data which had been collected over the past two years. There was, however, further data needed, and when such data was requested from the member libraries, it was received with gratifying alacrity. In short, simulation forced a system design in such detail as to form an adequate base for development.

Even in the early stages of simulation it was becoming increasingly manifest that an efficient file organization was absolutely imperative for the operation of the system. Mimicry of library manual files or invocation of standard computer techniques do not provide sufficient efficiency to process peak traffic burdens in the Ohio network. At least four centers are working on a solution to the problem of rapid access to records by employment of derived keys from which the position of the record in the file is calculated. The Director presented a paper in October at the Columbus meeting of the American Society for Information Science that presented findings resulting from an investigation into one aspect of this problem. The Center will continue to do research on file organization, and at the end of the year entered into a contract with the National Agricultural Library to do further research on retrieval of single entries from very large bibliographic files. The contract calls for the expenditure of the modest sum of $4,182. The Center views the study as one which will solve the majority of problems, but it will be necessary to do supplementary investigations to achieve swift retrieval for upwards of 95 percent of searches.

The Ohio College Library Center system design plus efforts to resolve problems of file organization have led to delineation of mechanized descriptive cataloging as a distant objective. Achievement of this objective will probably furnish the first major breakthrough in the development of a library technology

that will be increasingly productive. Thereby, it will become possible to diminish the rate of rise of per-student library costs, and bring these exponentially rising costs into a linear relationship with cost rises in the general economy.

The decision of the Library of Congress to include all cataloging of American imprints on MARC II tapes made feasible early implementation of catalog card production. This implementation would continue to operate as part of the shared cataloging system when that system is activated. Meetings of the membership were held at Ohio Wesleyan University on 21 February and 7 March to define specific products of the card production project. About 100 representatives from Ohio academic libraries attended each of these meetings. To the original description of cards to be produced, the meetings added an additional dozen specifications recorded in the Newsletter of 25 April, 1969.

One of the major characteristics of the cards is that they will be designed for individual catalogs in individual member libraries. Programs capable of such production can cost as much as $75,000 to $100,000 and can require an expenditure of as much as seven man years; therefore, existing programs capable of producing cards to the Center's specifications were sought, but only three could be located. Among these three, the Yale Bibliographic System (YBS) proved the best for a variety of reasons, and the Center selected it.

The next principal task was to bring the YBS programs into operation on Ohio State University computers. It was necessary to embed the Maryland Michigan Operating System (MAMOS) under the main operating system in the Ohio State University's IBM 7094 computer. This task proved more difficult and time-consuming than anticipated, so that although MAMOS was successfully embedded in the late spring, it was not until the end of the year that the YBS program achieved operational status.

Also carried out during the latter part of the year were searches for high-speed slitting devices to cut cards out of forms on which cards would be printed, a computer print chain necessary to do the printing, as well as forms and card stock on which cards would be printed. In addition, a host of other form design and procedure delineations was accomplished.

The Center undertook a project to equip all academic libraries in Ohio with National Union Catalog symbols, for these symbols will be required to record holdings in the central computerized file. The speedy cooperation of the National Union Catalog at the Library of Congress made possible assignment of symbols to all libraries but for one whose post office address for the immediate future is in doubt.

The Center also initiated an informal seminar on academic library automation activities in Ohio. The first meeting of the group was at the University of Toledo Library in the spring. Representatives from nine libraries attended.

At the suggestion of the Center, Alan D. Hogan, Systems Automation Librarian at the Wright State University Library, effectively undertook the chairmanship of a "Committee to Determine Data Elements in Converted Library Records." Members of his Committee were James A. Damico, of the University of Dayton Library, Sul Lee,

University of Toledo Library, John Linford, Ohio State University Libraries, Leo R. Rift, Bowling Green State University Library, Jack Scott, Kent State University Library, and Morgan I. Temple, Case Western Reserve University Library. This Committee prepared an excellent "Draft Statement of Data Elements in Converted Library Bibliographic Records" that is particularly useful in guiding conversion of retroactive records. The Ohio State University Libraries is following recommendations of the Hogan Committee.

Subsequent to the appearance of the "Statement", there was an informal meeting of the Hogan Committee Members and others in the United States and Canada involved in retroactive conversion and who were attending the Columbus ASIS Meeting in October; retroactive conversion was also discussed at the Annual Membership meeting. More recently the Council on Library Resources has made a grant to the Library of Congress to explore techniques for effecting retroactive conversion - RECON as this activity is now known.

The Ohio State University Libraries coordinating with the plans of the Center began catlog record conversion in June, and have signed a contract with IBM to design and activate a remote catalog access and circulation system. The Ohio State University Libraries intend that the system design will be such that the Center will be able to take advantage of it.

At the Annual Meeting on 8 November the Membership voted unanimously to support the principle that faculty members of OCLC institutions have borrowing privileges in all OCLC libraries and that each institution accept the rules adopted by the Dayton and Miami Valley Consortium, and the Inter-University Library Council. Invitations to accept these rules went to Members in December and June and elicited forty-seven affirmative replies.

Finally, it must be reported with a warm expression of gratitude to The Ohio State University that the Center's office moved from the Ohio State University Library to some 1200 square feet of space adjacent to the older Ohio State Computer Center. This increase in space has made possible the increase in staff and activities that occurred during the year under report.

Finances

Mrs. Judith A. Washburn, Assistant to the Director of University Budgets of The Ohio State University, served as accountant for the Center since October 1967. She established the system for keeping records, the seemingly innumerable procedures that a corporation must follow in such matters as federal and local income tax deductions, hospitalization insurance, life insurance, and social security payments. Mrs. Washburn also was largely responsible for the procedural relationships with The Ohio State University whereby it is possible for the Center to take full advantage of administrative association with the University, while at the same time maintaining the advantages inherent in a small corporation. The Center's mounting activity in the last half of the year under report placed an increasing burden on Mrs. Washburn so that she was forced to request the Center to find another accountant asking that she be relieved of her responsibilities at least by the end of the fiscal year. The Center has been and will continue to be grateful to Mrs. Washburn for her skillful solutions to the problems confronting a new

corporation and for maintenance of its accounting records.

With the advice and concurrence of the Center's Treasurer, the nationally known accounting firm of Haskins & Sells, Certified Public Accountants, was engaged to examine and audit the Center's accounts. Appendix A contains the Center's Financial Statements for the years ending 30 June 1969 and 1968, and Haskins & Sells' Report on their examination of these Statements.

In the spring of 1969, the Center requested members to furnish the number of titles that each member library had processed during a recent twelve-month period. The Center used this data for calculating individual member assessments for 1969/70; assessments were computed in the manner referred to in the last Annual Report. Average increase in assessments for 1969/70 was 16 percent.

Fifty-four of the 68 potential members paid assessments for 1968/69, the same number as in the previous year. However, there were three changes in participating membership; Edgecliff College, The Ohio College of Applied Science, and Mount Union College did not renew membership, but Hebrew Union College, Mary Manse College, and Urbana College joined as new members. Subsequent to the Ohio College of Applied Science having informed the Center that it would not renew its membership, the College merged with the University of Cincinnati effective 1 July, 1969, so that the College library became part of the University of Cincinnati Library.

The last Annual Report mentioned a grant request that was being prepared at the end of the year for submission to the Council on Library Resources, requesting funds to develop the shared-cataloging system. The Center presented that request to the Council on 26 July 1969. The sum asked for was $251,915 for a two-year period. Before the Council took action on the grant, the Office of Education informed the Center that it had changed its policy not to fund new, large, library computer development as related in the last Report; therefore, another Proposal for Research was prepared. This Proposal requested $203,120 for an eighteen-month period, and the request went to the Office of Education on 23 April, 1969. At the same time, the Center informed the Council on Library Resources of the submission to the Office of Education. At the end of the year action on the Proposal had not been taken.

As mentioned in the Planning and Accomplishment section, the Board of the Ohio State Library approved a Library Service & Construction Act Title III Special Project Grant for the Center in the amount of $18,588 to match a similar amount of the Center's funds to support simulation activities.

As also mentioned in the section on Planning and Accomplishment, the National Agricultural Library contracted with the Center in the amount of $4,182 to carry out a further investigation designed to identify derived keys of short character strings in bibliographic entries that could be used to retrieve such entries efficiently from huge files. The $4,182 will be expended for computer operations and related supplies.

Staffing

Continued efforts in the early part of the year to obtain a Chief of Develop-

ment were fruitless and led to the conclusion that the Center would not be able to obtain such a person. Therefore the proposed organization was altered so that there would be a group responsible for computer system analysis and development and another group responsible for application system analysis and development. The Center was fortunate in being able to secure the services of Philip L. Long to be chief of the first group, and Curtis E. Higgins, as chief of the second.

Mr. Long joined the staff on 2 January, coming from the Battelle Memorial Institute where he had been an analyst and programmer. Prior to joining the Center, he had published three reports concerned with simulation studies. His initial primary responsibility at the Center has been for the Center's simulation activity.

Mr. Higgins joined the staff in mid-February, coming to the Center from the Yale University Library where he had been an Associate Library Systems Analyst and a Project Leader responsible for a group working on development of computerized cataloging. Mr. Higgins' initial, primary responsibility has been for development of the Center's catalog card production project.

Mrs. Heberle Moore came to the Center on 23 June 1969 to be an editor. Her first task is writing a document to be entitled "Preliminary Description of Catalog Cards Produced from MARC II Data" for use of the members.

Miss Mary Allen joined the staff on 16 June 1969 to serve largely as a key-puncher throughout the summer during the simulation study.

Activities

The Director continued to visit and revisit Ohio academic institutions. He has been at all but two of the 54 that paid assessments last year, and to several that have not joined. He attended and spoke at various library and academic meetings in Ohio.

The Director continued to be a member of the National Library of Medicine's Facilities and Resources Committee that reviews grant requests for medical library construction and for augmenting medical library resources. Similarly, he has continued to be active on the USA Standards Institute Machine Inputs Committee, which is a subcommittee of Committee Z39 Library Work and Documentation. In November, the Machine Input Committee completed preparation of a "USA Standard for a Format for Bibliographic Information Interchange on Magnetic Tape" that has been sent to the USA Standards Institute for approval. The proposed Standard appeared in the June, 1969 issue of the Journal of Library Automation.

During the year, the Director was appointed to the Library Service Construction Act Title III Special Projects Grants Advisory Committee of the Ohio State Library and to the Visiting Committee of the Case Western Reserve University School of Library Science. He also participated on the Advisory Council the Library of Congress' RECON Project. The Director continued to be Editor of the Journal of Library Automation.

Publications that appeared during the year were:

"University Libraries and Computation." In Computers for University Libraries Part I: Proceedings of the Drexel Conference on Data Processing in University Libraries, 18-20 September, 1967, Drexel Library Quarterly, Drexel Institute of Technology, pp. 157-176, July, 1968.

"Initial System Design for the Ohio College Library Center: A Case History." In Proceedings of the 1968 Annual Illinois Clinic on Library Applications of Data Processing, pp. 79-88.

"Retrieval of Single Entries from a Computerized Library Catalog File." Proceedings of the American Society for Information Science, Vol. 5, 1968, pp. 133-136.

Appendix A

ACCOUNTANTS' OPINION

To the Board of Trustees of
The Ohio College Library Center:

We have examined the balance sheet of The Ohio College Library Center as of June 30, 1969 and 1968 and the related statement of income and members' equity for the two years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet and statement of income and members' equity present fairly the financial position of the Center at June 30, 1969 and 1968 and the results of its operations for the two years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Haskins & Sells

October 6, 1969

THE OHIO COLLEGE LIBRARY CENTER

BALANCE SHEET, JUNE 30, 1969 AND 1968

	JUNE 30 1969	JUNE 30 1968
A S S E T S		
CURRENT ASSETS:		
Cash	$54,913.37	$53,305.70
Travel advances	199.42	159.42
Prepaid expenses	1,524.06	1,960.06
Total current assets	56,636.85	55,425.18
PROPERTY - At cost:		
Office furniture and fixtures	3,610.72	2,973.77
Office improvements	2,203.43	2,203.43
Total	5,814.15	5,177.20
Less accumulated depreciation	808.41	258.86
Property - net	5,005.74	4,918.34
TOTAL	$61,642.59	$60,343.52
L I A B I L I T I E S		
CURRENT LIABILITIES:		
Accounts payable	$12,647.43	$ 1,110.90
Accrued payroll	200.35	
Members' dues received in advance	14,755.00	27,686.00
Grant funds received in advance of related expenses (Note 2)	3,661.84	
Total current liabilities	31,264.62	28,796.90
MEMBERS' EQUITY (Note 1)	30,377.97	31,546.62
TOTAL	$61,642.59	$60,343.52

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

STATEMENT OF INCOME AND MEMBERS' EQUITY
FOR THE YEARS ENDED JUNE 30, 1969 AND 1968

	..YEAR ENDED JUNE 30.. 1969	1968
INCOME - Members' dues	$65,333.00	$67,128.00
EXPENSES:		
Salaries and wages:		
Director	25,348.62	22,998.58
Systems analysts	9,849.00	
Secretary	6,142.56	4,173.12
Costs regarding study to simulate a computer system to operate a computerized, regional library network - net of applicable grant funds of $5,632.16 (Note 2)	6,385.13	
Office supplies and expense	4,193.22	1,625.86
Employee benefits	4,090.86	2,270.11
Travel	3,766.46	1,746.72
Telephone	1,491.44	610.63
Books and periodicals	1,444.30	572.10
Computer rental	1,101.48	
Payroll taxes	1,130.03	526.81
Depreciation	549.55	258.86
Accounting	500.00	500.00
Other	509.00	298.59
Total	66,501.65	35,581.38
NET INCOME (LOSS)	(1,168.65)	31,546.62
MEMBERS' EQUITY AT BEGINNING OF YEAR	31,546.62	
MEMBERS' EQUITY AT END OF YEAR (Note 1)	$30,377.97	$31,546.62

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

NOTES TO FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 1969 AND 1968

1. ORGANIZATION AND TAX STATUS

The Center is a non-profit corporation organized to establish and operate a computerized, regional network to serve academic libraries. Business operations of the Center commenced July 1, 1967. The Center members, presently academic libraries in Ohio, are charged annual dues in advance based generally on their book processing. No Center earnings will be distributed to the members. In the event of dissolution, the Board of Trustees shall adopt such plan for distribution of remaining assets as shall be consistent with the purposes of the Corporation.

The Center has applied for tax exempt status under the appropriate section of the Internal Revenue Code and accordingly no provision for Federal income tax has been made.

2. SIMULATION GRANT

In April 1969, the Center received a grant (matching contract funds of $18,588.00 received in equal installments in April and July 1969) from the Ohio State Library Board to conduct a study to simulate a computer system to operate a computerized, regional network for academic libraries. The Center, in addition to matching grant funds, provided the services of a Center employee during the period of the study. The portion of the grant funds applied as a credit against the study costs charged to income through June 30, 1969, was based on the ratio of study costs incurred through June 30 ($12,017.29) to the total estimated study costs ($39,742.47).

Ohio College Library Center

Annual Report

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BOARD OF TRUSTEES

Term expires 1970
Hyman Kritzer
Joseph P. Denham
Robert F. Cayton, Secretary

Term expires 1971
Phillip R. Shriver
Bob Lee Mowery, Treasurer
Robert W. Morse

Term expires 1972
Lewis C. Branscomb, Chairman
Eileen Thornton
Charles O. McDonald, Vice Chairman

MEMBERS

Antioch College
Ashland College
Athenaeum of Ohio
Bluffton College
Bowling Green State University
Capital University
Case Western Reserve University
Cedarville College
Central State University
Cleveland State University
College of Mt. St. Joseph on the Ohio
College of Steubenville
College of Wooster
Defiance College
Denison University
Findlay College
Hebrew Union College
Heidelberg College
Hiram College
John Carroll University
Kent State University
Kenyon College
Lake Erie College
Malone College
Marietta College
Miami University
Mount Union College
Muskingum College
Oberlin College
Ohio Dominican College
Ohio Northern University
Ohio State University
Ohio University
Ohio Wesleyan University
Otterbein College
Pontifical College Josephinum
Rio Grande College
Sinclair College
St. John College of Cleveland
University of Akron
University of Cincinnati
University of Dayton
University of Toledo
Urbana College
Walsh College
Western College for Women
Wilberforce University
Wilmington College
Wittenberg College
Wright State University
Xavier University
Youngstown State University

STAFF

Frederick G. Kilgour, Director
Philip L. Long, Senior Programmer & Systems Analyst
John Wyckoff, Senior Programmer & Systems Analyst
Alan Landgraf, Senior Programmer & Systems Analyst
Herbert Marine, Programmer
Stephan Beam, Programmer
Adela Z. Merhemic, Secretary

To: Board of Trustees

I have the honor to submit my third Annual Report.

Activity increased several fold in this third year largely because of a grant in the amount of $90,135 received from the Office of Education; $14,113 received from the Council on Library Resources, Inc.; and the grants of $4,182 from the National Agricultural Library and $18,588 from the Library Services and Construction Act, Title III Special Project Grant Funds administered by the Ohio State Library received at the end of the previous year. A Xerox Data Systems Sigma 5 computer system was selected and ordered. The off-line catalog production system that simulates one of the three major products of the on-line shared cataloging system was brought into operation. Research on search keys produced results that now make it clear that it will be possible to design a huge file of bibliographic entries that will operate efficiently.

Organization

The principal change in organization was an authorization and approval by the Members of a Resolution of Amendment of the Articles of Incorporation of the Ohio College Library Center. The Internal Revenue Service informed the Center that the Charter would have to be amended before it could exempt the Center from Federal Income Tax under Section 501(c) (3) of the Internal Revenue Code. The Amendment provides more precisely than had the original phraseology that, "Upon the dissolution of the corporation, the Board of Trustees shall, after paying or making provision for the payment of all of the liabilities of the corporation, dispose of all of the assets of the corporation exclusively for the purposes of the corporation in such manner, or to such organization or organizations organized and operated exclusively for charitable, educational, religious, or scientific purposes as shall at the time qualify as an exempt organization or organizations under Section 501(c) (3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law), as the Board of Trustees shall determine. Any of such assets not so disposed of shall be disposed of by the Court of Common Pleas of the county in which the principal office

of the corporation is then located, exclusively for such purposes or to such organization or organizations, as said Court shall determine, which are organized and operated exclusively for such purposes". Subsequent to the amendment of the Charter, the Internal Revenue Service determined that the Center is exempt from Federal Income Tax.

In the latter part of the year, the Pittsburgh Regional Library Center inquired of OCLC as to whether or not it could participate with OCLC in a network and receive services from OCLC. Mr. Huntington Carlile, the Center's legal counsel, determined that under the Charter such a network relationship with another regional center would be proper, and the Board of Trustees approved entering into negotiations with PRLC. At the end of the year, OCLC and PRLC were planning the drafting of an agreement that would establish a formal relationship between OCLC and PRLC. It was intended that the agreement would be sufficiently complete so that the OCLC and PRLC Boards could act upon it in the autumn.

In November, the Board elected Hyman W. Kritzer, Assistant Provost, Kent State University to fill the unexpired term of A. Robert Rogers. The Annual Meeting of the Members re-elected Lewis C. Branscomb, Ohio State University; Charles O. McDonald, University of Cincinnati; and Eileen Thornton, Oberlin College. During the meeting of the Board following the Annual Meeting, the Board elected the following officers for 1969/70: Chairman, Lewis C. Branscomb; Vice Chairman, Charles O. McDonald; Secretary, Robert F. Cayton; and Treasurer, Bob Lee Mowery.

Five outstanding authorities in library automation and regional networks accepted appointment to the OCLC Advisory Committee funded by the U. S. Office of Education grant: Henriette D. Avram, MARC Development Office, Library of Congress, Washington, D. C.; Richard E. Coward, Head, Research and Development, The British National Bibliography, London, England; Richard M. Dougherty, Acting Director of Libraries, University of Colorado, Boulder, Colorado; Peter Paulsen, Technical Processes Librarian, The New York State Library, Albany, New York; and Josephine Pulsifer, Chief, Technical Services and Development, Washington State Library, Olympia, Washington.

Planning & Accomplishment

The Report for 1968/69 described the initial stages of the simulation study that began in June, 1969. This study was completed in September, and provided the Center with findings of great value. Ten computer manufacturers made proposals to the Center for equipment to operate the five projects described in last year's Report, at a peak loading that would average five requests per second over the period of an hour. On the first challenge by the simulated network all ten proposals failed because of inefficiencies in the operating systems of the computers. The Center and Comress staff that carried out the simulation then proposed a modification in operating systems, which the manufacturers accepted. On the next series of trials it was shown that more than half of the computers or external memory files would have to be utilized over one hundred percent of the time to process the projected traffic. As a result of these findings one computer manufacturer withdrew its proposal, and five others changed proposals by upgrading their systems. Ultimately the percent of computer utilization for the nine proposals ranged from 19.70 percent to 114.31.

A subsequent study based on the theory of queues revealed that computer utilization would have to be below thirty percent for the equipment to cope with peak traffic loads. The proposals of three manufacturers were under thirty percent, and the Center staff carried out a trade-off study on these systems that included such characteristics as cost, reliability, and time to install the application systems.

The Board of Trustees decided on 12 February, 1970 to select a Xerox Data Systems Sigma 5 computer, and a lease with purchase option was subsequently signed with XDS. The Sigma 5 is scheduled to arrive in late August and to be operational on 1 September, 1970. It was not possible to plan specifically for the on-line shared cataloging project until the computer system had been selected, and the Trustees asked that the Members be informed as soon as possible as to estimates of costs for on-line shared cataloging. The Newsletter of 3 March, 1970 carried an announcement that it was estimated that the on-line shared cataloging project would cost Members

during the 1971/72 academic year a total of about seven times assessment costs for 1969/70. This figure included the cost of the Center staff, of the computer system, of the telephone circuits, and of the cathode ray tube terminals. Expressed in other terms it is estimated that Members will be charged $1.66 for each use of a bibliographic record in the central file for production of catalog cards; it is proposed that there will be no charge for inquiries addressed to the file for union catalog information or for use of the communications system to request inter-library loans. The only charge to Members other than that for the use of cataloging information would be for cards produced in final form and in packs ready to file in catalogs. The Trustees decided to charge for cards because large libraries may receive as many as 9.5 cards per title, whereas small libraries receive only an average of five. Hence, if card costs were included in overall costs, the smaller libraries would to some extent be financing cards for the larger. It is predicted that card costs will be under five cents per card.

The Advisory Committee met on 30 April, 1970 to review OCLC's overall plans in general, and shared cataloging plans in particular. The Committee expressed no serious criticism of OCLC's planning for development of its five major projects, but did feel that the serials control project would require more effort than had been allotted for it in the future. As for the shared cataloging project, the Advisory Committee felt that the system design was adequate, but that the human problem of interfacing the central system with individual libraries would prove to be a major problem. Partly as the result of the committee's concern about problems that would be generated by implementation, a considerable amount of effort was expended during the last months of the year in working toward a solution to these problems - particularly toward solving the problem of start-up financing.

It has been estimated that when the shared cataloging project is in full operation it will yield a total annual net savings of $470,000 for 52 institutions. Gross savings would be over a million dollars since the costs of the on-line shared cataloging project would be approximately $600,000. For OCLC institutions to realize a net

savings of $400,000, it will be necessary for them to reallocate $600,000 in salaries to OCLC, and to reduce salary expenditures by a further $400,000.

The need to reduce salaries for cataloging presents a major problem to the Members for financing the start-up of the OCLC on-line system because normal attrition in some libraries would not present adequate opportunities for reallocation in less than several years. On the other hand, at least two Members have been able to take advantage of attrition to plan start-up so that neither funds nor personnel will be dislocated.

There have been three general meetings of OCLC institutions at which this problem of start-up financing was discussed, and an Ad Hoc Committee on Financing has been appointed. This Committee had one meeting at the end of the year, and has proposed a solution that is being pursued. However, of thirteen large libraries whose librarians were to consult with their Presidents concerning start-up financing, ten reported that they would be able, in one way or another, to employ institutional funds to implement OCLC, but that the strain on such funds would be excessive. Therefore, each of the ten expressed a hope that outside financial assistance could be made available during the adjustment period. Two of the thirteen were unable to discuss financing with their administrations because of their Presidents being absent from the country, and one had not reported by the year's end.

The shared cataloging project is scheduled to become operational on 1 July, 1971, and will have three principal products: 1) catalog cards for catalogs in Member libraries; 2) an on-line union catalog of resources in Ohio academic libraries; and 3) a communications system for requesting inter-library loans. The Annual Report for 1968/69 described the initiation of an off-line catalog production system. This off-line system simulates the on-line system, and has proved invaluable for refinement of system design. Options for card production already in the system make it possible to produce cards in over twenty-three hundred usable combinations of options.

Cards were first produced in the autumn of 1969, and cards began to appear in April, 1970 for catalogs of three Members; Oberlin College, Ohio University, and

Wittenberg University participated in the early trials of card production. At the end of the year some 5,400 cards had been produced for catalogs, and production was attaining several thousand cards weekly. Twenty-five Members had submitted Catalog Profile Questionnaires, and the Center has supplied most of these Members with pre-punched request cards so that they could start participation in the off-line catalog production project.

The cost per card had originally been estimated to be 9.5¢; however, by June it had become clear that with card production averaging over 3,000 per week the cost would be somewhat less than 9.5¢. Therefore, the Board of Trustees decided that the charge for cards for a billing period would be determined on the basis of actual costs for the period plus one-half cent per card, with the provision that the total cost would not exceed 9.5¢. The trial period being over, billing will begin in July, 1970.

The success of the catalog production project stems entirely from the file of MARC catalog records distributed by the Library of Congress. Without the MARC file being available, OCLC off-line catalog production would collapse.

An Advisory Cataloging Committee was appointed in early June to assist OCLC primarily in design of the on-line cataloging system, and to aid in completing design of the off-line system. A major goal of the Committee will be system design that will interface readily with Member libraries. The first meeting of the Committee on 17 June, at Case Western Reserve University was most helpful in furnishing information that accelerated design of on-line cataloging on CRT terminals. Committee members are Esther Greenberg, Case Western Reserve University; Eva Schroeder, Heidelberg College; Mrs. A. John Rose, Hiram College; Duncan Wall, Kent State University; Barbara Gates, Oberlin College; John Demos, Ohio State University; Mildred Dugas, Ohio University; Will Rogers, Ohio University; and Bonnie Seiss, Wittenberg University.

Subsequent to the decision to acquire an XDS Sigma 5 computer, the Center's staff entered upon an evaluation study of cathode ray tube terminals. At the end of the year, the staff had determined that at least three CRT terminals are available that qualify economically and

technically for operations in the OCLC shared cataloging, technical processing system, and serials control projects. A trade-off study of these three terminals will be carried out during the summer, and it is expected that a decision as to which terminal to use will be reached by the end of the summer.

As pointed out in last year's Report, the simulation study made it abundantly clear than an efficient file organization is an absolutely imperative requirement for operation of the OCLC network. The research on search keys supported by a contract with the National Agricultural Library in the amount of $4,182 was carried out in the course of the year. Findings were most encouraging. The principle objective of the investigation was to determine efficiency of truncated search keys in retrieving bibliographic descriptions of known documents employing name-and-title information. It was found that a search key consisting of the first three letters of the first word of the main entry, and the first three letters of the first non-article word of the title would produce five or fewer entries on a cathode ray tube terminal 99.08 percent of the time if requests were made to a file of 132,808 name-and-title entries. Since more than four-fifths of the academic libraries in Ohio possess fewer than 132,000 monographic titles, it would appear that the symmetrical 3,3 search key would provide results sufficiently close to uniqueness and would at the same time so effectively diminish human error in requests that the key would be adequate for the majority of academic libraries. It was further found that if twenty entries were the optimal maximum number of replies to an inquiry the optimal maximum would be exceeded on the average only thrice in ten thousand requests.

A paper describing this investigation and its results has been prepared by the Director, by Philip L. Long of the Center's staff, and by Eugene B. Leiderman; this paper has been accepted for presentation at the October, 1970 meeting of the American Society for Information Science.

At the end of the year the National Agricultural Library extended its contract in the amount of $1,750 to do similar research on title-only entries in a large bibliographic file.

Forty-nine Members have agreed to accept the principle that faculty Members of OCLC institutions have borrowing privileges in all OCLC libraries, and each of the forty-nine has accepted the rules adopted by the Dayton and Miami Valley Consortium, and the Inter-University Library Council.

Finances

The Center's Financial Statements for the year ending 30 June, 1970, and Haskins & Sells' Report on their examination of these Statements are appended to this Annual Report.

In the spring of 1969, the Center requested Members to furnish the number of titles that each Member library had processed during a recent twelve month period. The Center used this data for calculating individual Member assessments for 1970/71; assessments were computed in the manner described in the Annual Report for 1967/68. Average increase in assessments for 1970/71 was 7.5 percent in contrast to the 16 percent increase for 1969/70.

Fifty-two Members paid assessments for 1969/70, two fewer than the number for the previous year. Last year it was reported that Mt. Union College did not renew its membership, but it turned out that this non-renewal was the result of an administrative accident. This year Mt. Union renewed its Membership. Dyke College in Cleveland joined as a new Member. Four institutions did not renew membership: Borromeo Seminary of Ohio, Cuyahoga Community College, Mary Manse College, and Ursuline College for Women.

Three new grants were received during the year. The Office of Education awarded OCLC a grant in the amount of $90,135 for the period of 1 January, 1970 thru 30 June, 1971 to finance a project entitled "Development of a Computerized Regional Shared Cataloging System". This grant enabled OCLC to add four programmers to its staff during January, 1970. The computerized regional shared cataloging system is scheduled to be implemented in July, 1971.

The Council on Library Resources, Inc. of Washington, D. C. awarded a grant of $14,133 to the Center. This grant supplements funds from OCLC's own budget and from the Office of Education. The Council on Library Resources

grant enables the Center to acquire supplies and materials, and to lease cathode ray tube terminals and telephone lines necessary to develop the shared cataloging project. These funds from the Council on Library Resources are available from 1 June, 1970 thru 30 June, 1971.

The National Agricultural Library extended its contractual grant with the Center in the amount of $1,750 to carry out an investigation of retrieval of title-only entries from computerized files of very large numbers of bibliographic entries by use of truncated search keys.

Publications

The Center staff prepared the following documents:

Preliminary Description of Catalog Cards Produced from MARC II Data (September, 1969)

Instruction Manual for Catalog Production (February, 1970)

The Director published the following items:

"Computerization: The Advent of Humanization in the College Library" Library Trends, 18 (July, 1969) 29-36

"The Economic Goal of Library Automation", College & Research Libraries 30 (July, 1969) 307-311

"Library Computerization in the United Kingdom", Journal of Library Automation, 2 (September, 1969) 116-124

"Library Automation", Annual Review of Information Science and Technology, 4 (1969), 305-337

"Effect of Computerization on Acquisitions", Program 3 (November, 1969) 95-103

"A Regional Network - Ohio College Library Center" Datamation, 16 (February, 1970), 87-89

"Concept of an On-Line Computerized Library Catalog", Journal of Library Automation, 3 (March, 1970) 1-11

Respectfully submitted,

Frederick G. Kilgour
Director

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

150 EAST BROAD STREET
COLUMBUS 15

ACCOUNTANTS' OPINION

To the Board of Trustees of
The Ohio College Library Center:

We have examined the balance sheet of The Ohio College Library Center as of June 30, 1970 and the related statement of income and members' equity and the supplemental schedule of cost reimbursement grants for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying financial statements and supplemental schedule present fairly the financial position of the Center at June 30, 1970 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Haskins & Sells

August 17, 1970

THE OHIO COLLEGE LIBRARY CENTER

BALANCE SHEET, JUNE 30, 1970 AND 1969

	JUNE 30 1970	JUNE 30 1969
A S S E T S		
CURRENT ASSETS:		
Cash	$29,561.83	$54,913.37
Unreimbursed grant costs (Note 3)	7,259.44	
Accounts receivable - employees	196.18	199.42
Prepaid expenses	4,458.00	1,524.06
Total current assets	41,475.45	56,636.85
PROPERTY - At cost:		
Office furniture and fixtures	5,493.08	3,610.72
Office improvements	2,203.43	2,203.43
Total	7,696.51	5,814.15
Less accumulated depreciation	(1,499.73)	(808.41)
Property - net	6,196.78	5,005.74
TOTAL	$47,672.23	$61,642.59
L I A B I L I T I E S		
CURRENT LIABILITIES:		
Accounts payable	$12,448.97	$12,647.43
Accrued and withheld payroll taxes	1,975.12	
Accrued payroll		200.35
Members' dues received in advance	19,823.00	14,755.00
Grant funds received in advance of related costs (Note 3)	8,383.00	3,661.84
Total current liabilities	42,630.09	31,264.62
MEMBERS' EQUITY (Notes 1 and 2)	5,042.14	30,377.97
TOTAL	$47,672.23	$61,642.59

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

STATEMENT OF INCOME AND MEMBERS' EQUITY
FOR THE YEARS ENDED JUNE 30, 1970 AND 1969

	..YEAR ENDED JUNE 30.. 1970	1969
INCOME - Members' dues	$ 81,147.00	$65,333.00
EXPENSES:		
Salaries and wages:		
Director	26,268.00	25,348.62
Systems analysts	23,381.77	9,849.00
Clerical	8,061.21	6,142.56
Total	57,710.98	41,340.18
Costs regarding study to simulate a computer system to operate a computerized, regional library network - net of grant funds, 1970 - $12,956; 1969 - $5,632 (Note 3)	15,569.34	6,385.13
Computer rental and supplies	8,234.87	1,101.48
Accounting	4,260.00	500.00
Employee benefits	3,779.60	4,090.86
Printing and duplicating	3,046.52	2,755.39
Payroll taxes	2,699.46	1,130.03
Office supplies and expense	2,635.98	1,437.83
Telephone	2,204.49	1,491.44
Consulting and other professional services	2,196.70	
Travel	2,080.75	3,766.46
Depreciation	691.32	549.55
Dues and subscriptions	563.06	1,444.30
Other	809.76	509.00
Total	106,482.83	66,501.65
NET INCOME (LOSS)	(25,335.83)	(1,168.65)
MEMBERS' EQUITY AT BEGINNING OF YEAR	30,377.97	31,546.62
MEMBERS' EQUITY AT END OF YEAR (Notes 1 and 2)	$ 5,042.14	$30,377.97

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

SCHEDULE OF COST REIMBURSEMENT GRANTS (NOTE 3)
FOR THE YEAR ENDED JUNE 30, 1970

	NATIONAL AGRICULTURAL LIBRARY	OFFICE OF EDUCATION	COUNCIL ON LIBRARY RESOURCES, INC.	TOTAL
COSTS INCURRED:				
Salaries.....		$16,387.49		$16,387.49
Payroll taxes....		1,278.60		1,278.60
Computer rental..	$3,920.17	5,225.53		9,145.70
Travel.....		1,568.59		1,568.59
Consultants.....		834.00		834.00
Data processing materials.....	185.45		$ 130.00	315.45
Printing.....	67.20	37.25		104.45
Total....	4,172.82	25,331.46	130.00	$29,634.28
GRANT FUNDS RECEIVED.....	1,607.12	20,637.72	8,513.00	$30,757.84
UNREIMBURSED GRANT COSTS AT JUNE 30, 1970.....	$2,565.70	$ 4,693.74		$ 7,259.44
GRANT FUNDS RECEIVED IN ADVANCE AT JUNE 30, 1970....			$(8,383.00)	$(8,383.00)

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

NOTES TO FINANCIAL STATEMENTS
FOR THE YEAR ENDED JUNE 30, 1970

1. ORGANIZATION AND TAX STATUS

The Center is a non-profit corporation organized to establish and operate a computerized, regional network to serve academic libraries. The Center members, presently academic libraries in Ohio, are charged annual dues in advance based generally on their book processing. No Center earnings will be distributed to the members. In the event of dissolution, the Board of Trustees shall adopt such plan for distribution of remaining assets as shall be consistent with the purposes of the Corporation.

The Center has obtained tax exempt status under the appropriate section of the Internal Revenue Code and accordingly no provision for Federal income tax has been made.

2. LEASE OBLIGATION - EDP EQUIPMENT

On February 19, 1970 the Center contracted to lease electronic data processing equipment for six years beginning July 1971 at an annual rental of approximately $165,000. The lease includes an option to purchase the equipment during the lease period for the greater of $675,000 reduced by 65% of rentals paid to exercise date, or $202,500.

3. COST REIMBURSEMENT AND MATCHING GRANTS

During fiscal 1970, the Center received various cost reimbursement grants relative to developing a computerized regional shared-cataloging system. These costs are not charged against Center income, since all covered costs are reimbursed by the grantor.

The Center completed, in September 1969, a study (initiated in April 1969) to simulate a computerized regional library network. Under the terms of the matching grant, the Center incurred, and charged against income, costs of $21,954.47, and was reimbursed for the remaining study costs of $18,588.00.

Ohio College Library Center

Annual Report

1970/1971

BOARD OF TRUSTEES

Term expires 1971
Philip R. Shriver, Miami University
Bob Lee Mowery, Wittenburg University
Robert F. Cayton, Marietta College

Term expires 1972
Lewis C. Branscomb, Ohio State University
Joseph P. Denham, Hiram College
Charles O. McDonald, University of Cincinnati

Term expires 1973
John H. Becker, Otterbein College
Hyman W. Kritzer, Kent State University
Betty Wasson, Western College for Women

MEMBERS

Antioch College
Ashland College
Athenaeum of Ohio
Bluffton College
Bowling Green State University
Capital University
Case Western Reserve University
Cedarville College
Central State University
Cleveland State University
College of Mt. St. Joseph on the Ohio
College of Steubenville
College of Wooster
Defiance College
Denison University
Findlay College
Hebrew Union College
Heidelberg College
Hiram College
John Carroll University
Kent State University
Kenyon College
Lake Erie College
Malone College
Marietta College
Miami University
Mount Union College
Muskingum College
Oberlin College
Ohio Dominican College
Ohio Northern University
Ohio State University
Ohio University
Ohio Wesleyan University
Otterbein College
Pontifical College Josephinum
Rio Grande College
Sinclair College
University of Akron
University of Cincinnati
University of Dayton
University of Toledo
Urbana College
Walsh College
Western College for Women
Wilmington College
Wittenberg College
Wright State University
Xavier University
Youngstown State University

TO: Board of Trustees

I have the honor to submit my fourth Annual Report.

The year ended with the on-line shared cataloging system on the brink of implementation. Indeed, a prototype version for instruction purposes was running at the end of the first week in July, and two weeks later, a training system was operational. On-line catalog production began at the end of August.

Off-line catalog production started up in July 1970. A total of 440,711 catalog cards was produced at an average cost of 6.92 cents. Fifty institutions paid assessments, and an Agreement was signed with the Pittsburgh Regional Library Center, whereby OCLC services are available to PRLC members. The research program designed to produce solutions to problems of organization of large files and of access to such files yielded findings that have made possible efficient operation. At the year's end, the Center received grants in the amount of $125,000 from the U. S. Office of Education and $75,000 from the Council on Library Resources to continue research on and development of a computerized regional library system.

Organization

At the Annual Meeting on 13 November 1970, the Membership re-elected Hyman W. Kritzer, and elected John H. Becker and Betty Wasson to the Board of Trustees. Eileen Thornton and Robert W. Morse resigned from the Board; the Trustees elected Joseph P. Denham and Robert F. Cayton to fill these two vacancies. The Trustees also elected Hyman W. Kritzer as Chairman, Lewis C. Branscomb Vice-Chairman, Robert F. Cayton Secretary, and Bob Lee Mowery Treasurer.

At its meeting on 3 September 1970, the Board of Trustees established an Executive Committee on which it appointed as Members, the Chairman, the Secretary, and the Treasurer; at a subsequent meeting, the Board amended this action by adding the Vice-Chairman to the membership of the Committee. The Executive Committee has made possible taking important action when such action was required between the bi-monthly meetings of the Board.

Fifty institutions paid their assessments in 1970/71. Dyke College, St. John College of Cleveland, and Wilberforce University did not renew their Memberships. The College of Steubenville joined as a new Member, and toward the end of the year, the United Theological Seminary informed the Center of its intention to become a Member.

On 27 November 1970, the Center signed an Agreement with the Pittsburgh Regional Library Center in which the two Centers declared "their intent to work together toward the development of a model for an information network using the methods and services developed by OCLC". Subsequently, OCLC began to supply off-line catalog production services to members of PRLC. In the on-line phase of operations there will be a terminal in Pittsburgh to serve PRLC.

Planning

The major plans developed during the year were for research and development on three new subsystems, namely, 1) remote catalog access and circulation control, 2) a serials control subsystem, and 3) a technical processing subsystem. The files and indexes required for these three subsystems will be integrated with the shared cataloging system. The three new processes will use much of the shared cataloging subsystem. This detailed planning formed the basis of a research proposal made to the U.S. Office of Education and the Council on Library Resources for grant support. Happily, the two agencies acted favorably on the requests.

The Center also developed plans for an interface with the Cooperative College Library Center in Atlanta, Georgia. The Atlanta Center is a centralized processing center servicing 18 black colleges. It differs from the Pittsburgh Regional Library Center in that it physically processes volumes for its member colleges. The grant funds received from the Office of Education include $50,000 to carry out an interface demonstration with the Atlanta Center, the objective of which is to show that the OCLC system will reduce processing costs in a centralized processing center.

The simulation study described in this Annual Report for 1968/69 continues to be of great value. Hardly a day

goes by but that a staff member does not refer to it with respect to planning being done for a module of a program or in evaluation of an existing program. The findings of the simulation study are an important segment of the basis of the Center's planning.

The principal administrative planning relates to the Center's accounting procedures. Because of the increasing complexity of the Center's accounts, the Board of Trustees approved in April a proposal by Haskins and Sells to analyze the Center's accounting objectives and to re-organize its procedures. Wherever appropriate, those procedures will be computerized.

Accomplishments

The foremost accomplishment was implementation of the shared cataloging system that first began operation with Ohio University on 26 August 1971. Six other libraries were added to the system in the following week with the remaining Members to be activated as rapidly as possible during successive weeks. Implementation involved acquisition of equipment, design and leasing of the telephone network, activation of computer programs, and the interlocking of equipment, communication, and programs into an efficient working system.

The Xerox Data Systems Sigma 5 computer arrived at the end of August 1970, and the Center accepted the computer in mid-September. Work had already begun on redesign of the computer's operating system, the monitor program that supervises execution of programs in the computer. One of the two principal changes in the operating system was to build into it capability to run two programs at the same time. It is now possible for the computer to run batch jobs while it is operating the on-line system without degrading on-line performance. This improvement in the operating system makes possible greater utilization of equipment.

The other major alteration in the operating system was to make the work area of the operating system identical with that of applications programs. The simulation study had shown that this change would lower computer utilization by two-thirds, and it was only with this change having been affected that the Sigma 5 and two other computers were able to process the burden of traffic

at peak loads. According to the simulation, the other seven computers proposed were unable to process peak loads even after this change in their operating systems had been effected, because the architecture of their design introduced major inefficiencies into tasks involving communications from terminals.

These two changes, and the second one in particular, have converted the general purpose computer to the specific OCLC application and thereby have increased efficiency. The operating systems in third generation computers are designed to supervise every conceivable type of program, and to do so, the operating system must go through an elaborate protocol that lengthens the running time for execution of any single program. In other words, the adaptability of third generation computers is purchased at a considerable loss in efficiency. OCLC has greatly increased efficiency by changing the Sigma 5 operating system to work specifically with OCLC applications.

In September, the Trustees approved the recommendation of the Center's staff that Ivanscope model LTE terminals be acquired for the system. Two terminals were ordered in September and an additional 68 in January. Over a dozen terminals were studied, and in the final stage of the investigation, the Center carried out a trade-off study of three possible terminals that led to the recommendation for selection of the Ivanscope. In the course of the study, 33 characteristics were used, but one of the 33 (reliability) could not be judged for any of the three because none had yet reached the market, and one characteristic did not apply to selection for OCLC. Of the 31 remaining characteristics evaluated in the trade-off study, the Ivanscope excelled or was equal to the other two terminals in 28 including all 19 characteristics of importance to the user. Spiras Systems, Inc., manufacturers of Ivanscope terminals, presented the Center an opportunity to advise in redesigning their terminals for bibliographic processing. The Center's staff took full advantage of this opportunity, and Members of OCLC's Advisory Committee also participated in the review and revision of specifications for the Ivanscope. The happy outcome is a terminal believed to be superior to any other currently available for manipulation of bibliographic data.

Design of the telephone network began early in the year, and the order for the network was placed with the American Telephone and Telegraph Company's Long Lines Department in November 1970. Although the telephone company had over seven months of lead time to bring up the network on 1 July 1971, it was not operational until mid-August. The OCLC network is a multiple part line operating in synchronous mode. Although this method of operation is highly efficient and economical, it is not widely used. Hence, AT&T lacks experience with such a network. Moreover, the network invades the territories of several non-Bell-System independent telephone companies and most of these companies appear to be entirely lacking in computer-data network experience. Nevertheless, the multitude of exasperating communications problems that arose proved to be soluble, and patience proved to be a crucial component in the solutions.

The major intellectual problem that faced the Center when it began to develop its computerized regional library system was the design of a huge file of bibliographic entries from which a single entry could be quickly retrieved. Philip L. Long of the Center's staff has effectively carried out research on file organization, and he reported his findings in late August 1971 at a meeting of the International Federation for Information Processing Societies in Ljubljana, Yugoslavia; the title on the paper is "Large On-Line Files of Bibliographic Data: An Efficient Design and a Mathematical Predictor of Retrieval Behavior". The findings in this paper have been the basis for the organization of the OCLC on-line files. Actual operation has demonstrated the efficiency of the design.

Research on access to large files by use of truncated, derived search keys was described in the last Report. This research has continued and papers reporting findings are in press: "Title-Only Retrieval from a MARC File", and "A Truncated Search Key Title Index". These findings have also been employed in the present system that holds 150,000 catalog records at the end of the year when the files consisted of a sequential file of complete cataloging records, an author-title index containing a truncated author-title-date record, a title index, and a Library of Congress card-number index. The LC card numbers are not truncated.

The index files are organized according to the principles worked out by Mr. Long and his colleagues; the procedures for deriving the index characters are based on the studies listed in the previous paragraph. The author-title index employs the first three letters of the first non-English-article word of the title (3,3) - a symmetrical trigram. If either of the two words contains fewer than three letters, its key is right-filled with blanks. The title index also consists of six characters - the first three characters of the first non-English-article word of the title plus the first character of the next three words (3,1,1,1). If there are fewer than four words in the title, the key is right-filled with blanks.

Extensive trials of these truncated key indexes have demonstrated their feasibility. Actually, it was the Ohio State University Libraries, containing over two-and-a-quarter million volumes, that first made use of OCLC's research findings in design of OSU's remote catalog access and circulation control system employing a 4,5 key. The OSU system began operation in December 1970. The 4,5 key has been completely successful in providing swift access to the searched-for catalog record.

As already reported, the off-line catalog production system put out 440,711 catalog cards at an average cost of 6.92 cents per card. These cards are in finished form, alphabetized in packs for filing in specific catalogs. The cost of the off-line catalog production system is less than half the costs of manual procedures. However, off-line production depends entirely on the file of MARC II records made available by the Library of Congress. At the end of the year, it appeared that some libraries were obtaining more than half of their cataloging on this system.

The cost of 6.92 cents per card includes over 23 separate cost elements plus a three-quarter cent charge for overhead. Through April, the actual amount charged for overhead was one-half cent. However, it came to the attention of the Center that suggestions had been made outside of Ohio that the Center could not do cataloging so cheaply without subsidization. Because these suggestions were brought to the Center's attention by two granting agencies, the obvious, but unspoken implication of the suggestions was that grant funds were being used to subsidize catalog production. No grant

funds were subsidizing catalog production costs. Because it is necessary for the Center to retrieve all funds expended on catalog production, the Center called in Haskins and Sells, Certified Public Accountants, to review the Center's costing procedures. Haskins and Sells found that all direct costs were being included in the card costing but recommended that the overhead charge be increased one-quarter cent.

Activation of off-line catalog production a year before the on-line system was to be implemented proved to be an incalculable asset. The options required by Members were more than originally estimated. Routinizing the complexities of the manual procedures associated with catalog production required several months to achieve smooth operation. In general, it would have been disastrous to attempt to bring up the on-line system and catalog production at the same time; the cumulative complexities of the two tasks would have been overwhelming.

The original off-line system operated on four Ohio State University computers: an IBM 360/75, an IBM 360/50, and IBM 7094, and an IBM 1620. During the last part of the year under review, the programs running on these four machines were redesigned and rewritten for the XDS Sigma 5. A considerable improvement in efficiency has been attained; the program that formats catalog cards for printing now runs approximately five times as fast as the program used in the old system.

During most of the year, catalog production was performed somewhat inefficiently because of the use of four OSU computers in two OSU computer centers, and because the computerized programs harbored a variety of inefficiencies. Nevertheless, the computer cost to format catalog cards, but not to print them, was 2.27 cents. If costs of the Sigma 5 are calculated at commercial rates, the new programs format cards at 2.21 cents per card. However, if actual costs of OCLC are used, formating of each card becomes 0.86 cents. The total cost of catalog cards is, of course, much more than the cost to format them on a computer. Nevertheless, it appears that OCLC is in process of establishing a cost criterion for card production by which other processing centers can judge efficiency of their computer operations.

The last Report told of the establishment of an Advisory Cataloging Committee. This committee met often during the year, and provided the Center's staff with invaluable advice and information to be used in the design of the on-line system and the redesign of catalog production. The Center is most grateful to each member of the Committee.

An informal "course" of instruction was carried out during the year. The Center's staff prepared three manuals and a brochure that are listed in the section of this Report entitled "Publications". Two day-long instructional meetings were held in June; about 170 staff members of OCLC institutions attended each meeting. The first meeting was devoted to instruction on preparation of bibliographic data to be input on terminals and the second to the use of terminals.

Five half-day clinics were scheduled on use of the CRT terminal for the first ten days of July 1971. A maximum of ten participants was accepted for each clinic. Each participant actually used the terminal in addition to receiving further instruction. Only one person from each member institution attended these clinics, and that person was expected to instruct his colleagues in his library. In addition, a dozen regional clinics were scheduled to be held in individual libraries during the late summer.

Finances

The Center's Financial Statements for the year ending 30 June 1971 and Haskins and Sells' Report on their examination of these Statements are appended to this Annual Report.

The fifty Members listed on the second cover paid assessments for 1970/71. Three institutions did not renew membership: Dyke College, St. John college of Cleveland, and Wilberforce University. The College of Steubenville joined as a new Member.

The Center received two new grant awards during the year. The U.S. Office of Education extended for 18 months its contract with the Center. This contract is for the development of a computerized regional library system, and originally bore the termination date of 30 June

1971. The grant award extending the contract was in the amount of $125,000.

The Center also received a complementary award from the Council on Library Resources in the amount of $75,000. This award is for the same period of 18 months beginning 1 July 1971, and also is to support development of the computerized regional library system.

The Board of Trustees approved a policy to invest sizable cash balances from time to time by purchasing U.S. Treasury Bills or certificates of deposit. The Executive Committee of the Board of Trustees specifically approves each purchase. The Board also approved a policy of securing loans from the Center's banking institution. This policy was established in anticipation of a low cash balance at the end of the fiscal year. However, it proved unnecessary for the Center to make a loan at the end of the year under review.

The discussions of start-up financing that last year's Report described continued in the early months of this year. In November, the Center presented the Board of Regents of the State of Ohio with a development proposal entitled "Implementation of a Computerized Regional Library System". The proposal requested $581,587, the equivalent of the OCLC budget for one year of operation as calculated in November 1970. Two-thirds of the amount was to be expended in the first year of operation and one-third in the second; Members would pay one-third in the first year and two-thirds in the second. The Membership will assume payment of the full cost in the third year. This arrangement provides two years for the Center to reach a level of operation that will enable the Membership to make net savings and at the same time give the member libraries two years to take advantage of normal attrition to reduce salary expenditures.

The Board of Regents approved the request as did the Department of Finance. Subsequently the House of Representatives and the Senate passed different appropriation acts that contained the request, but final action had not been taken at the time this Report was written.

Publications

The Center's staff prepared and published the following brochure, manuals, and articles.

A brochure entitled Ohio College Library Center.

Creation of Machine Readable Catalog Entries; An Adaptation of the "Data Preparation Manual: MARC Editors'. (May 1971).

Manual for OCLC Catalog Card Production (February 1971).

Cataloging on a Cathode Ray Tube Terminal (June 1971).

Frederick G. Kilgour, "History of Library Computerization", Journal of Library Automation, 3 (September 1970), 218-229.

Frederick G. Kilgour, Philip L. Long, Eugene B. Leidermann, "Retrieval of Bibliographic Entries from a Name-Title Catalog by Use of Truncated Search Keys", Proceedings of the American Society of Information Science, 7 (1970), 79-82.

Respectfully submitted,

Frederick G. Kilgour
Director

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

250 EAST BROAD STREET
COLUMBUS 43215

ACCOUNTANTS' OPINION

To the Board of Trustees of
The Ohio College Library Center:

We have examined the balance sheet of The Ohio College Library Center as of June 30, 1971 and the related statement of income and members' equity and the supplemental schedule of cost reimbursement grants for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying financial statements and supplemental schedule present fairly the financial position of the Center at June 30, 1971 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Haskins & Sells

August 17, 1971

THE OHIO COLLEGE LIBRARY CENTER

BALANCE SHEET, JUNE 30, 1971 AND 1970

	JUNE 30 1971	JUNE 30 1970
A S S E T S		
CURRENT ASSETS:		
Cash	$11,087.40	$25,561.83
Accounts receivable:		
Member dues	1,815.00	
Catalog cards	7,439.14	
Employees	24.98	196.18
Unreimbursed grant costs (Note 3)	6,836.74	7,259.44
Prepaid expenses	1,102.00	4,458.00
Total current assets	28,305.26	41,475.45
PROPERTY - At cost:		
Office furniture and fixtures	8,093.38	5,493.08
Office improvements	2,203.43	2,203.43
Total	10,296.81	7,696.51
Less accumulated depreciation	(2,350.10)	(1,499.73)
Property - net	7,946.71	6,196.78
TOTAL	$36,251.97	$48,672.23
L I A B I L I T I E S		
CURRENT LIABILITIES:		
Accounts payable	$ 7,594.48	$11,448.97
Accrued and withheld payroll taxes	7,274.94	2,975.12
Members' dues received in advance	9,039.00	11,823.00
Grant funds received in advance of related costs (Note 3)	647.73	383.00
Total current liabilities	24,556.15	14,630.09
MEMBERS' EQUITY (Notes 1 and 2)	11,695.82	34,042.14
TOTAL	$36,251.97	$48,672.23

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

STATEMENT OF INCOME AND MEMBERS' EQUITY
FOR THE YEARS ENDED JUNE 30, 1971 AND 1970

	...YEAR ENDED JUNE 30... 1971	1970
INCOME:		
Members' dues	$ 86,417.00	$ 81,147.00
Catalog cards	30,669.82	
Interest	632.70	
Total	117,719.52	81,147.00
EXPENSES:		
Salaries and wages:		
Director	28,599.96	26,268.00
Systems analysts	18,205.27	23,381.77
Clerical	12,636.77	8,061.21
Total	59,442.00	57,710.98
Costs regarding study to simulate a computer system to operate a computerized, regional library network - net of grant funds of $12,956		15,569.34
Computer rental and supplies	23,422.74	8,234.87
Accounting	3,978.00	4,260.00
Employee benefits	4,182.69	3,779.60
Printing and duplicating	4,960.42	3,046.52
Payroll taxes	2,315.61	2,699.46
Office supplies and expense	3,007.10	2,635.98
Telephone	3,296.96	2,204.49
Consulting and other professional services	817.30	2,196.70
Travel	2,584.02	2,080.75
Depreciation (straight-line method)	850.37	691.32
Dues and subscriptions	1,246.06	563.06
Other	962.57	809.76
Total	111,065.84	106,482.83
NET INCOME (LOSS) (Note 1)	6,653.68	(25,335.83)
MEMBERS' EQUITY AT BEGINNING OF YEAR	5,042.14	30,377.97
MEMBERS' EQUITY AT END OF YEAR (Notes 1 and 2)	$ 11,695.82	$ 5,042.14

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

SCHEDULE OF COST REIMBURSEMENT GRANTS (NOTE 3)
FOR THE YEAR ENDED JUNE 30, 1971

	NATIONAL AGRICULTURAL LIBRARY	OFFICE OF EDUCATION	COUNCIL ON LIBRARY RESOURCES, INC.	TOTAL
UNREIMBURSED GRANT COSTS AT JUNE 30, 1970.....	$2,565.70	$ 4,693.74		$ 7,259.44
GRANT FUNDS RECEIVED IN ADVANCE AT JUNE 30, 1970....			$(8,383.00)	(8,383.00)
COSTS INCURRED:				
Salaries.....		51,933.94		51,933.94
Payroll taxes....		3,414.50		3,414.50
Computer rental..	738.29	1,056.70		1,794.99
Travel.....		2,579.96		2,579.96
Consultants.....	224.42	835.66		1,060.08
Data processing materials.....			9,678.56	9,678.56
Printing.....		2,726.44		2,726.44
Data set installation...			2,456.71	2,456.71
Other.....		75.00		75.00
Total....	962.71	62,622.20	12,135.27	75,720.18
TOTAL - NET REIMBURSABLE COSTS.....	3,528.41	67,315.94	3,752.27	74,596.62
GRANT FUNDS RECEIVED DURING THE YEAR.....	3,528.41	60,479.20	4,400.00	68,407.61
UNREIMBURSED GRANT COSTS AT JUNE 30, 1971.....		$ 6,836.74		$ 6,836.74
GRANT FUNDS RECEIVED IN ADVANCE AT JUNE 30, 1971....			$ (647.73)	$ (647.73)

See Notes to Financial Statements

THE OHIO COLLEGE LIBRARY CENTER

NOTES TO FINANCIAL STATEMENTS
FOR THE YEAR ENDED JUNE 30, 1971

1. ORGANIZATION AND TAX STATUS

The Center is a non-profit corporation organized to establish and operate a computerized, regional network to serve academic libraries. The Center members, presently academic libraries in Ohio, are charged annual dues in advance based generally on their book processing. No Center earnings will be distributed to the members. In the event of dissolution, the Board of Trustees shall adopt such plan for distribution of remaining assets as shall be consistent with the purposes of the Corporation.

The Center has obtained tax exempt status under the appropriate section of the Internal Revenue Code and accordingly no provision for Federal income tax has been made.

2. LEASE OBLIGATIONS - EDP EQUIPMENT

As of June 30, 1971 the Center was obligated under an agreement dated February 19, 1970 (revised June 1971) to lease certain electronic data processing equipment for six years beginning July 1971 at an annual rental of approximately $195,600. The lease includes an option to purchase any or all of the equipment during the lease period for a maximum purchase price of the greater of $865,000 reduced by 65% of rentals paid to the exercise date, or $759,500.

In July 1971 the Center also signed a three-year lease agreement for certain peripheral terminal equipment with annual rentals, including maintenance costs, of $147,000. This lease includes an option to purchase any or all of the equipment during the lease period for a maximum purchase price of $423,500 reduced by 80% of rentals paid to the exercise date.

3. COST REIMBURSEMENT GRANTS

The Center has received various cost reimbursement grants relative to developing a computerized regional shared-cataloging system. These costs are not charged against Center income, since all covered costs are reimbursed by the grantors.

END